



Developing a Training Program for GIS in the EOC

Special thanks to the City of Chesapeake
GIS Division of the Department of Information Technology

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The Power of GIS

- GIS is the framework to deliver information via a map.
- GIS maps should evolve over the duration of an activation.
- Remember that GIS is more than just maps

■ Reference **Prepping to Map a Disaster**, Presented at the Governor's Hurricane Conference by Victoria Morrow and Robert Humple, GIS Managers for Broward County



Outline

- History
 - GIS
 - Emergency Management
 - GIS in the EOC
- How Isabel changed everything
- What we learned when we thought we fixed everything!



History of Chesapeake's GIS

- City GIS started in mid-1990s
 - Department of Public Works
 - Department of Public Utilities
 - Planning Department
 - Real Estate Assessor's Office
- Today decentralized across 13 departments



Chesapeake's GIS Staffing

- 15 “Core GIS” Users
 - Highly Trained
 - Daily Users
 - Subset (8) of this group designated to work in EOC
 - 2 - Alternate
 - 1 – PWOCC
 - 1 – PWE
 - 1 - DPU
 - 1 EM Planner
- Multitude of others
 - Varied training
 - Monthly / Weekly use
- Position hierarchy
 - Administrator (1)
 - Senior Analyst (1)
 - Analyst (5)
 - Specialist (2)
 - Technician (3)



History of Chesapeake's Emergency Management

- Current Fire Chief / Coordinator hired in 1997
- Deputy Coordinator hired in 1998
- Current Planner hired in 2004
 - Former GIS Analyst / Senior Analyst



History of GIS in the EOC

- GIS Administrator hired in 1998
- Asked to have Emergency plan
- Emergency Plan:
 - Do what needs to be done!
 - List of things to do pre-storm, post-storm
 - Staffing matrix
- Worked well for relatively small events
 - 1999 - Dennis, Floyd, Irene
 - Y2K



The “Big One”

- 2003 – Isabel
- Preparation began week before storm
 - Maps built
 - Data updated
 - Census data downloaded
 - Staffing schedule set



Post-Isabel Issues

- Localized Data
- Standardization
 - File names & Data storage
- Procedural Manual (SOP) & Training
- Streamline process
- More trained staff & automation of tasks!!!
 - GIS is part of City's business practice
 - Decision makers in EOC expect its use



Addressing Issues

- Office of Emergency Management and Information Technology GIS Division worked together to Develop:
 - Periodic Training Classes for Core Users
 - Twice per year to Four times per year
 - Team Approach
 - Pre-Set teams based on abilities and daily working relationships



Training Process

- In the beginning focused on procedures
- Found out need to review *basic GIS*
 - Users “compartmentalized” in their jobs
 - VERY good at daily tasks
 - Had forgotten how to do other tasks



Basic Tasks to Teach

- Geocoding
 - From Excel spreadsheet
- Spatial Joins
 - What road has potential to be flooded?
- Table Joins
 - Property values
- Overlays
 - Nursing homes in areas of power outages
- Queries
- Basic Cartography
 - Making it pretty



How to Teach Them

- Wrote step-by-step instructions for basic tasks
- Included naming conventions
- Included symbology
- All kept in a Manual
 - Online
 - In notebook at stations in EOC



How to Teach Them

- Devised Scenarios to:
 - Simulate actual EOC request
 - Required use of basic GIS tasks
- Scenario 1: Map list of addresses given in Excel Spreadsheet & map by zip code
- Scenario 2: Map of streets / addresses in CAT 3 storm surge



Exercise Participation

- Hurricane Charley 2004
 - In EOC for 12 hours
 - “Live test” for new procedures
- Special Delivery 2005
 - Extensive test of team approach
 - Performance evaluated by peers
- Others in future
 - VERTEX 07 next week!



Conclusion

- Don't make assumptions!
 - Find out what folks know and DO NOT know
- Be aware of “pigeon holing”
 - Extensive training in a “software package” does NOT mean PROFICIENCY in basic tasks



Questions?

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